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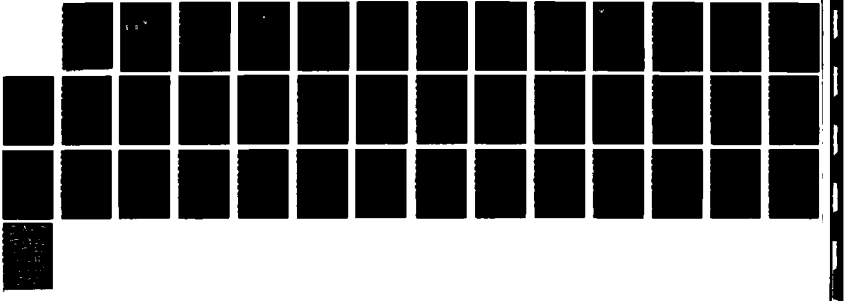

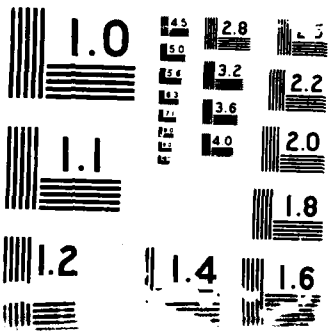
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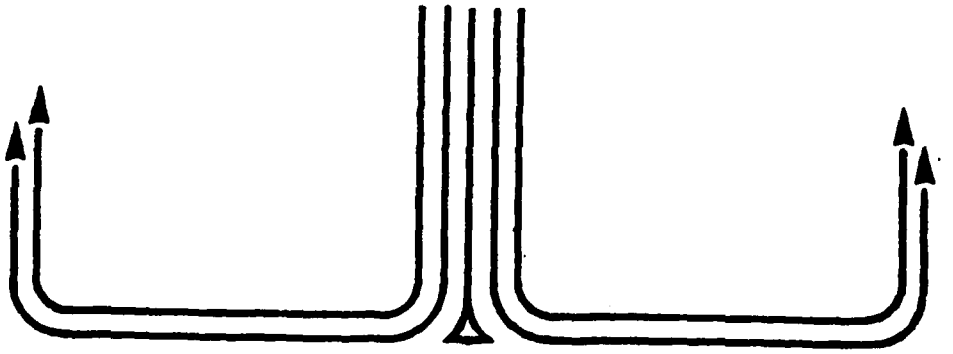
AIR COMMAND AND STAFF COLLEGE

STUDENT REPORT

AN ANALYSIS OF THE COMPONENT NON-UNIT TIME-PHASED FORCE DEPLOYMENT DATA (TPFDD) PROCESS

MAJOR CHRISTOPHER M. MEYER 88-1835

"insights into tomorrow"



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REPORT NUMBER 88-1835

TITLE AN ANALYSIS OF THE COMPONENT NON-UNIT TIME-PHASED FORCE DEPLOYMENT (TPFDD) PROCESS

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The joint operations planning system (JOPS) is a tool planners use during the deliberate planning process to produce a time-phased force deployment document. Often overlooked is the non-unit portion of this document. The non-unit data, as a rule, projects notional tonnages of various classes of supply for the sustainment of deployed forces. There is a distinct process that logistics planners follow to produce the data. This process is not totally understood by planners, but must be if planning is to be complete. This paper examines the non-unit process from the perspective of the Air Force component planner. This is accomplished by reviewing the JOPS development process. Following this review are proposals on ways to make the process more responsive in today's planning world.

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PREFACE

The Joint Operations Planning System (JOPS) is a tool planners have used for quite some time to reflect deliberate planning requirements. A majority of planners do realize the time-phased force and deployment data (TPFDD) evolve from a series of deliberate planning JOPS steps. However, there is another TPFDD which projects resupply or non-unit assets for the sustainment of our deployed forces. This other TPFDD is the subject of this research paper.

This paper will examine the non-unit TPFDD from the perspective of the Air Force component planner. To accomplish this task, the JOPS TPFDD development process will be reviewed, and a description and analysis of the various levels of planners involved in producing the TPFDD will follow. Finally, the author will propose ways to make the process more responsive in today's planning world.

Many statements and thoughts expressed in this paper were formulated by the author while working programs at Headquarters, United States Air Forces in Europe (USAFE) from 1983 to 1987. The author was involved in non-unit resupply JOPS planning during this entire period as the resident Air Force Component Command Non-unit Planner. Additionally, the author taught JOPS procedures as an instructor at the Logistics Plans Officers Course at Lowry Air Force Base, and annually provided a presentation on logistics operations planning for the USAFE War Planners Course.

ABOUT THE AUTHOR

Major Christopher M. Meyer, began his military career in 1968, when he enlisted in the United States Navy. After Basic Training and Basic Electricity and Electronics at Great Lakes Naval Training Center, Illinois, he attended Radioman "A" School in Bainbridge, Maryland. His first assignment was to the Kodiak Naval Station Communications Center, Kodiak, Alaska. His last naval tour was onboard a guided missile destroyer, the USS Waddell, DDG-24.

The author returned to the University of Florida and entered the Air Force Reserve Officer Training Corps, graduating as a Distinguished Graduate in 1974. His first assignment after graduation was to the 321st Strategic Missile Wing, Grand Forks Air Force Base, North Dakota. While assigned to the 321SMW, he was a Missile Combat Crew Commander, and Wing Instructor. In 1978, he moved to Seymour Johnson AFB, North Carolina, as a wing logistics planner with the 68th Bomb Wing. In 1980, Major Meyer moved to Denver, Colorado, where he helped develop and teach the first logistics plans officers course at the Lowry Technical Training Center. In 1983, he was assigned to Headquarters, United States Air Forces in Europe at Ramstein Air Base, Germany. There, he served in the Logistics Plans Directorate until entering the Air Command and Staff College in 1987.

Major Meyer has a Bachelor of Arts Degree in Psychology from the University of Florida, and a Masters in Business Administration from the University of North Dakota. He completed Squadron Officers School by correspondence and in residence in 1980, Air Command and Staff College by seminar in 1983 and in residence in 1988, and the National Security Management Course by correspondence in 1987. His decorations include the National Defense Service Medal, Air Force Combat Readiness Medal, Air Force Commendation Medal with one Oak Leaf Cluster, and the Meritorious Service Medal with one Oak Leaf Cluster. Major Meyer is married with two children.

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REPORT NUMBER 88-1835

AUTHOR(S) MAJOR CHRISTOPHER M. MEYER, USAF

TITLE AN ANALYSIS OF THE COMPONENT NON-UNIT TIME-PHASED FORCE DEPLOYMENT DATA (TPFDD) PROCESS

I. Purpose: Analyze the Joint Operations Planning System (JOPS) non-unit TPFDD planning process to surface the problems associated with joint logistics planning. Particular emphasis centers on the Air Force component's role in the process with recommendations on methods to improve the non-unit TPFDD process.

II. Problem: The present JOPS automated means to generate non-unit resupply for theater deploying forces is unable to provide data to answer questions asked by our Service, Component, and Unified leaders during planning refinement conferences.

III. Data: JOPS is a tool planners use during the deliberate planning process to produce a TPFDD. Often overlooked is the non-unit portion of the TPFDD. The non-unit TPFDD, as a rule, projects notional tonnages of various classes of supply for the sustainment of deployed forces. There is a distinct process that logistics planners follow to produce the TPFDD. This process is not totally understood by planners, but must be if planning is to be complete.

IV. Conclusions: Understanding the JOPS non-unit process can enhance the total effort when planning for contingencies or war. Understanding how sustainment is produced via JOPS automation, however, is only part of the problem. More responsive systems need to be developed that respond to the needs of the planning community. Additionally, educational programs throughout the Joint community are necessary if the goals of the Joint Chiefs of Staff (JCS) are to be met.

V. Recommendations: The JCS planning community needs to listen more effectively to the questions from senior planners so the automated data processing (ADP) community can begin to develop systems responsive to those needs. Second, strong educational programs are necessary to improve and carry logistics planning into the future.

Chapter One

INTRODUCTION

PROBLEM

The present Joint Operations Planning System (JOPS) automated means to generate non-unit resupply for theater deploying forces is unable to provide data to answer questions asked by our service, component, and unified leaders during planning refinement conferences. Lieutenant Colonel Lawrence J. Faesser, USAF, states in the spring 1980 AF Journal of Logistics; "There is a lack of JOPS qualified logistics planners within defense logistics agencies and the services. This is the basic problem planners have in relating JOPS notional resupply data to actual resupply data" (3:2-3).. However, this is only part of the problem found in the deliberate planning world of JOPS. Operational commanders are asking hard questions without understanding the JOPS process or without understanding what notional data really is. Sustainment of deployed forces is a key issue in today's planning world and it needs increased attention within the peacetime deliberate planning environment.

The type of sustainment required and the process used to provide that data must be understood if the planners under the Joint Chiefs of Staff (JCS) umbrella are ever going to produce meaningful plans. This umbrella is large as it covers the gamut from the supported unified commands, the component service commands, service headquarters and related logistical agencies. The task of educating all levels of planners is crucial to understanding deliberate planning. General David C. Jones, USAF Chief of Staff (Retired), capsulized this need for understanding in his article "Command Policy" published in the June 1979 Armed Forces Press Service. General Jones said

> In the past, we have never been ready when war came, relying on a large acceleration lane to

build up after an attack. I have long espoused the philosophy that "readiness now" is the best insurance for the security of our country and...we have a great deal of work to do in order to mobilize, deploy, and sustain our combat forces.

METHODOLOGY

This paper will discuss and analyze one portion of the deliberate planning cycle, non-unit resupply planning. The analysis will cover how the non-unit time-phased force deployment data (TPFDD) is developed. A key factor within the process are the roles of the planners. These roles will be reviewed with a follow-on discussion on how the wholesale resupply agencies interact with the process. Finally, ways to improve the non-unit resupply process will be presented. Most of the attention in the TPFDD planning world focuses on the force portion of the TPFDD. The forces TPFDD refers to the initial time-phasing of unit related people and equipment needed to support the theater commander's order of battle. A relative "second-class" status has been given the non-unit resupply portion of the planning effort. In fact, it could probably be proven that most planners don't even know a resupply TPFDD exists. This paper will re-introduce to some (and introduce to others) the other side of deliberate planning - the non-unit TPFDD.

Chapter Two

NON-UNIT DEVELOPMENT PROCESS

There have been many aspects of the Joint Operations Planning System (JOPS) that appear in literature for operations planners to review. However, there is little data on how planning is developed for the sustainment of our deployed forces. This aspect of planning is referred to as resupply planning in some quarters and non-unit planning in others. Non-unit planning derives its name from planning related to cargo such as supplies and replenishment items not directly linked to specific units (5:456). An example would be rations required above those prepositioned in a particular theater of operations. This type of planning is not accomplished by operations personnel but by logisticians in every service. The task of the logistician is to develop representative time-phased force and deployment data (TPFDD) in support of deployed forces (6:6-28 - 6-29). An understanding of the non-unit TPFDD development process can best be explained by looking at the basic building block of the forces TPFDD, the unit type code (UTC). After examining the unit type code, an explanation of one of the JOPS automated data processing (ADP) programs, the movement requirements generator, will show how the UTC relates to non-unit planning. Finally, the roles of functional area experts as they relate to non-unit planning and the files within the JOPS ADP software that are used will be explored.

"The purpose of force planning is to identify and time-phase all the forces needed to support the Theater Commander's concept of operations" (6:6-25). Time-phasing is reflected in the TPFDD. Most Air Force personnel see time-phasing data in the form of a time-phased force and deployment list (TPFDL). The TPFDL is a computer listing produced from the TPFDD data base and is either MAJCOM specific or base specific (6:II-32). The TPFDL is also the means by which MAJCOM planners communicate force taskings to their individual bases. It is important to understand what a TPFDD represents as this is one of the cornerstones for

the development of the non-unit TPFDD. Each major operations plan (OPlan) has unique TPFDD information developed during the Plan Development Phase of JOPS deliberate planning (6:6-24). Force planning is the responsibility of planners within a supported command with each service component developing data unique to their particular mission (6:6-25). The United States European Command (EUCOM) is an example of a supported command. Force requirements are reflected by type units and coded by unique unit type codes.

UNIT TYPE CODES

A UTC is an alphanumeric code representing each force requirement within the TPFDD. This code is usually five characters in length and is associated with a particular type of specialty (6:II-34). For example, 3FSEA is a UTC which reflects an F-4 squadron with 24 primary aircraft assigned (PAA). However, the UTC represents more than just a shorthand terminology of some capability. Associated with the title are three other characteristics. First, a mission capability statement is provided which states exactly what those 24 airplanes can do. Second, all the manpower necessary to accomplish the mission statement is provided. Third, all necessary unit equipment is listed (5:383). The TPFDD only reflects the UTC but each planner can refer to other documents to find out exactly what is included in that particular UTC. Air Force unit level personnel can refer to the Manpower Force listing (MANFOR) and the Logistics Detail listing (LOGDET) for specifics. Component service force planners use the UTC to reflect force build-up to support unified command requirements.

As an example, EUCOM tasks their Air Forces Component, the United States Air Forces in Europe (USAFE), to provide a force structure for the build-up of Base X. This base will have two deploying fighter squadrons. The force planner will select the appropriate UTC for the requested aircraft and then ask support functional managers within the USAFE staff to task, in UTC format, the rest of the required support such as maintenance, supply, security, civil engineering and services. Base X is now structured to meet the tasking from EUCOM and may have 50 UTCs representing

1,000 people and many tons of equipment. This example is important in understanding non-unit resupply planning. The key to remember for now is the 1,000 people tied to those 50 UTCs. Remember also, this example is only looking at one base while an entire plan supports many different locations. However, the same basic iterative process is used for each required force location. After the total force package is built and put into JOPS programming, the non-unit planners can complete work on resupply that was started months before. With a force package in hand, the non-unit planner can begin to use the JOPS automated data processing (ADP) program called the movement requirements generator.

MOVEMENT REQUIREMENTS GENERATOR

JOPS non-unit planning was intended for the development of estimates for materiel movements generated during OPlan execution. The process generates feasibility estimates for transportation and reflects information on the size of the logistics effort required (5:317). Within JOPS automated data support software is a resident program to provide these estimates. The program is called the movement requirements generator (MRG). The MRG computes the gross requirements needed to support the force identified in the force TPFDD (6:6-29). MRG developed data include all supplies and equipment projected for support of deploying and in-place units other than assets prepositioned at points of intended usage. The MRG software either compares consumption factors against force UTCs phased in the TPFDD or computes pounds/gallons per man per day to project the non-unit cargo estimates when no UTC data is available (6:6-29). Recall the previous example of the 50 UTCs and the 1,000 people. If the JOPS data files have service built factors for a particular UTC, then the MRG will build tonnages of resupply for each class of supply based on those factors. But, if there are no factors programmed in the software then the pounds/gallons per man per day rule is applied. It can be seen then that the population build-up and the UTC force structure at a particular location are both very important in the development of non-unit related cargo and the resultant TPFDD.

As previously stated, after the force TPFDD was developed the non-unit planner could complete a process started earlier. The non-unit process, which culminates in the development of a non-unit TPFDD, really begins after receipt of the Supported Command's TPFDD Letter of Instruction (LOI). This document tells the component planners expectations for time-lines and other planning data required in the TPFDD development. The LOI supports taskings from the Joint Strategic Capabilities Plan (JSCP) and in some instances reflects individual service capabilities plan requirements (for the Air Force this is the War and Mobilization Plan, or WMP). The intent of JOPS non-unit resupply development is to provide artificially constrained resupply tonnages after prepositioned war reserve materiel (PWRM) have been depleted (5:317). This is the key to the beginning of the non-unit TPFDD development process.

FUNCTIONAL AREA EXPERTS

Based on information found in the JSCP, LOI, and WMP the Air Force component non-unit planner gathers information to disseminate to functional area experts. Every class of supply has a specific staff functional manager. There are 10 classes of supply which are generic to all services (5:432-433). (Figure 1 on page 9 lists all 10 supply classes.) In USAFE, for example, the munitions directorate (LGW) would handle class V items (ammunition), whereas class III items such as petroleum, oils and lubricants (POL) would be handled by the supply (LGS) and logistics plans (LGX) directorates. These functional managers are critical to the planning process because they know how much of a particular commodity is prepositioned within the theater. These managers provide PWRM cutoff dates which represent when the resupply of non-unit cargo should commence. The PWRM cutoff day depends on the prepositioning policy for a given class of supply (5:317). For example, the Air Force prepositioning objective for class II items may be 30 days stored in country Y. Country Y only has 20 days of actual storage in country. Because the 30-day objective is not filled, the functional manager would want resupply of class II to begin for country Y on day 20 instead of day 30. This information flows back to the component logistics planner for inclusion in the MRG files.

MOVEMENT REQUIREMENTS GENERATOR FILES

There are several sets of files the MRG uses in building the non-unit TPFDD. The ports of support file (POSF) for example, is a listing of all locations within the force TPFDD and the resupply ports which support those locations. Base X would have listed next to it a POL, sea, air, and ammunition port (6:6-32). Thus, resupply by class of supply would be either MRG or machine generated to these four designated ports. The second file is a UTC consumption factors file (UCFF) (6:8-17). Recall that one of the ways the MRG functioned was to compare a particular UTC against a service built consumption factor. For instance, if Base X had a 3FSEA tasked and the MRG found that UTC in the UCFF, specific resupply tonnages for each class of supply would be generated based on actual consumption factors. This is more fruitful in the development of the TPFDD than if the UTC was not in the UCFF. When a UTC is not found in the UCFF a formula of pounds/gallons per man per day would be used. This formula is then compared against a location's population and generates tonnages as the population builds. One last file, the planning factors file (PFF), ties the process together.

The PFF is how the component planner interfaces into the MRG process (6:8-17). Remember the PWRM cutoff date the functional managers provided? The logistician now manually inserts this information into the PFF. This date is matched by country and by class of supply, and stipulates the resupply start day. In other words, all the material needed to sustain the forces defined at a particular location will start flowing from resupply depots on that date. However, there is also another aspect of this generated data to be examined--supply buildup.

Supply buildup includes all supplies above the PWRM consumption rate and acts as a safety valve (6:6-31). A particular level is built into each class of supply to insure there is as little interruption as possible to the flow of the assets. For example, a service policy may specify a 10-day supply level of all supply classes to be in place at the end of 20 days (6:6-31). The PFF generates

tonnages of resupply for each supported location but it also stipulates the mode of strategic lift, air or sea, necessary to accomplish this tasking.

The PFF allows the logistician to place parameters by class of supply. For example, all class VIII (medical supplies) may require air movement whereas class VI (personal demand items) require sea transportation. The logistician can cause this separation through coding procedures within the MRG PFF. The Air Force logistician would provide this function based on guidance from the LOI or WMP. Other parameters can be set as well. For example, sailing time for ships can be reflected in the earliest arrival date (EAD) and latest arrival date (LAD) blocks for a particular port of debarkation (POD) (6:6-27). This can also be accomplished for air transport. There are many other manipulations which can occur as well. But, the end result the planner is looking for is tonnages by class of supply by a particular mode of transportation to a particular port in a specified time period. The MRG process using these data files produces the non-unit TPFDD. Additional management is accomplished after the TPFDD is produced to smooth out any anomalies, such as not having enough tonnage on a particular day to generate a mode of transport to a designated port. Figure 2 (page 10) depicts the non-unit process described in this chapter.

It must be pointed out that resupply planning data is used to assess strategic lift requirements and is notional by nature (5:317). This essentially means the data lacks substance and should not be confused with actual resupply. As a general rule, actual resupply begins as soon as forces submit requisitions at employment bases (5:317). (The confusion between actual and notional resupply will be dealt with in a later chapter.) Non-unit TPFDD planning began well before the force planners released their TPFDD to the logisticians. However, the discussion thus far has focused on the process, and to some extent, the role of the logistician. There are other planners in the system ranging from the EUCOM J-4/7 logistics planner to the US Army component planner. An understanding and analysis of their roles is beneficial to the overall analysis and comprehension of the non-unit TPFDD world.

SUPPLY CLASS

1-Subsistence (Food)

2-General Support Items (Clothing, individual equipment, tentage, organizational tool sets and tool kits, hand tools, and administrative and housekeeping supplies)

3-POL (Petroleum (including packaged items) fuels, lubricants, hydraulic and insulating oils, preservatives, liquids and compressed gases, coolants, deicing and antifreeze compounds or the components and additives of such products, including coal)

4-Construction (Construction materials and barrier materials)

5-Ammunition (Ammunition of all types (Including chemical, radiological, and special weapons), bombs, explosives, mines, fuzes, detonators, pyrotechnics, missiles, rockets propellants, and other associated items)

6-Personal Demand Items (Nonmilitary sales items)

7-Major End Items (A final combination of end products ready for its intended use; such as, launchers, tanks, racks, adapters, pylons, mobile machine shops, and administrative and tracked vehicles)

8-Medical (Medical materiel, medical repair parts, blood, and fluids)

9-Repair parts (Less medical peculiar repair parts) (All repair parts and components, including kits, assemblies and subassemblies (repairable and nonrepairable) required for all equipment, and dry radio batteries)

0(10)-Material to support military programs (includes agriculture and economic development materiel not included in classes 1 through 9)

Figure 1. Supply Class Codes

Source: AFR 28-3, USAF Operation Planning Process, Jun 86.

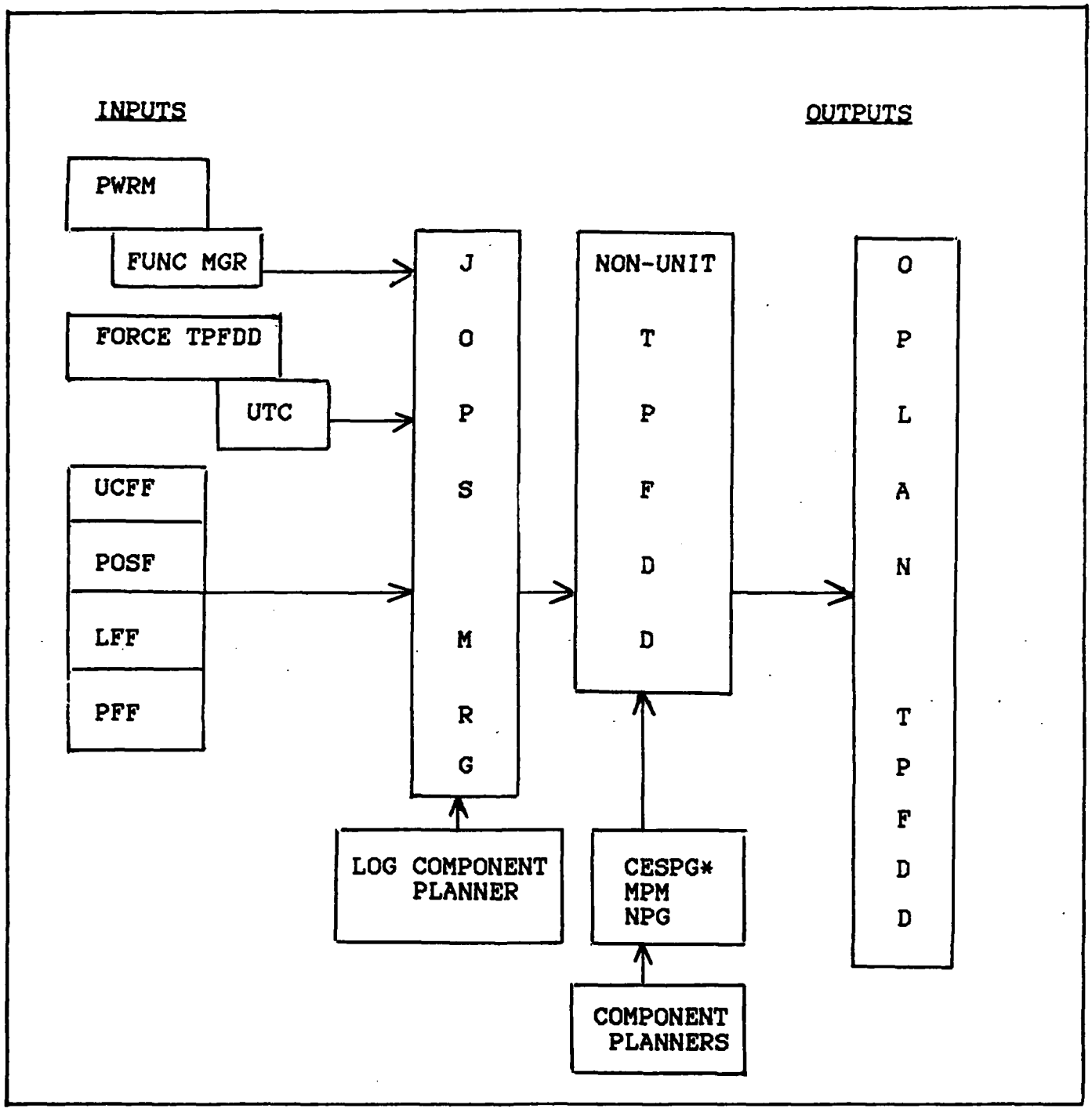

Figure 2. Non-unit TPFDD Process

(* Not discussed in this paper)

Chapter Three

ROLES OF NON-UNIT PLANNERS

If there has been a shortcoming in the world of non-unit planning, it has been the lack of cohesion in understanding policy and what is really required at the various levels of non-unit planning. Although the scope of non-unit planning spreads from the industrial base of a nation to the individual major command planner, this chapter will focus on two levels of planners. The unified command and the component command planners are pivotal players in the development of non-unit data.

UNIFIED COMMAND PLANNERS

Unified command or supported command planners consolidate requirements submitted by the various component command planners. Their basic role is to ensure the data is "transportation feasible", in the proper JOPS format, and adheres to JCS taskings (6:6-4 - 6-6). Transportation feasible means the various loads of non-unit cargo flow in a timely manner from the ports of embarkation (POE) to the ports of debarkation (POD) (6:6-37). Additionally, the various loads of either sea or air cargo must fit into the allocated lift asset. Thus, this level of planning must ensure the aircraft and ships have full loads. The tool that matches tonnage to a transportation asset is the transportation feasibility estimator (TFE).

The TFE uses data from the component commands and attempts to aggregate data in some systematic flow. "The TFE is a JOPS ADP application program that simulates the strategic deployment of movement requirements in the TPFDD on those common-user lift assets allocated for the operation" (6:II-33). Unified command planners analyze this data to make sure lift is correctly used. If the JOPS generated data indicates partially filled lift assets, then the planners must manually aggregate the data into full

loads. Planning for logistical sustainment at the unified command includes more than simply the planners running the TFE.

The previous discussion involved planners usually located in the transportation portion of the J-4/7 (logistics) directorate in a unified command. However, planners representing all aspects of resupply and non-unit planning are present. To ensure unnecessary duplication doesn't occur, planning must be carefully coordinated between the component commands. Although logistics planning is a particular service responsibility, each class of supply has a functional manager at the unified command (6:6-29). For example all the aviation fuel resupply requirements are compiled at the unified command and forwarded to the providing resupply agent for sourcing. Medical supplies are also consolidated by unified command planners. The role of these planners is to ensure transportation feasibility and theater consolidation prior to the plans submission to the JCS and the various transportation and sourcing agencies.

COMPONENT COMMAND PLANNERS

The actual birth of non-unit planning begins at the component command level with each respective class of supply functional manager. As an example, it would be beneficial to follow the actions of a class I (subsistence) planner at USAFE. The Air Force WMP, unified command instructions, and various Air Force and command level war reserve materiel (WRM) documents provide this planner with the necessary guidance to plan for a particular warfare scenario. Subsistence requirements are tabulated and actions are taken to procure assets for prepositioning. Requirements necessary to support forces employing into the theater to fill the levels not prepositioned are provided to the logistics planner who uses the MRG. This class I functional manager knows by location the requirements necessary to sustain the force. There are other duties and responsibilities this functional manager must perform, one of which involves the validation of consumption factors.

Recall the previous chapter's discussion on planning factors associated with the MRG. It is the responsibility of each component resupply planner to review and update

these factors (5:318). Resupply planning factors for a particular class of supply are determined by specific defense and service supply agencies, however, it is the responsibility of the component planner to identify any theater conditions which may cause the factors to be adjusted (5:318). The same basic actions are accomplished by each supply class functional manager. Requirements are input to the component logistics planner and the MRG process described in chapter one begins.

SERVICE DIFFERENCES

This basic understanding of what the unified and service or component planner does serves as a basis for analyzing their differences. The unified command planner has a unique setting in which to operate. This planner carries his or her service experience from previous assignments into the unified arena. Of course, there will be some bias. Additionally, as an overseer and coordinator of all the components, the unified planner must be able to understand the different service directives and requirements. As important as this understanding is though, it doesn't always happen, as "neither selection nor retention policies consistently people the system with top officials or staff assistants who are prepared by education and experience to perform effectively" (1:197). Each service approaches planning differently and these differences should be briefly looked at in relation to resupply planning.

The Army must resupply forces that are not static in nature. They are constantly on the move and intensity rates of conflict which flow into the MRG process are different for each position of the defined combat area. Intensity rates are factors each service uses to define the level of conflict which effects the demand on resupply. There are three intensity levels, high, medium, and low. Part of the Army's problem is to plan for constantly moving forces. To do this an accurate automated system is needed. However, "no inventory information flow analysis is used within the Army planning community because complete information does not exist; no major, standard regular method, automated or manual, is available which can provide the necessary periodic status of material at the supply points" (7:21).

The Navy's basic methodology involves forces ashore and forces afloat. Afloat factors for resupply are expressed as pounds per UTC per day, whereas ashore factors are pounds per man per day (7:23-24). Of course levels of intensity could vary depending on the programmed destination of resupply, whether ashore or afloat.

The Air Force basically resupplies static positions and the intensity rates used remain constant for all areas of a particular theater. Additionally, the Air Force supply system is a "pull" system with few assets "pushed" in times of conflict. A "pull" system refers to the process of a particular supply point, such as Bitburg Air Base, Germany, requisitioning assets to resupply consumed items. A "push" system automatically flows the needed resupply from a designated depot. This would be the case for some POL or ammunition stored in the United States because of a lack of storage in the particular theater.

As demonstrated, all services use the JOPS MRG process, however, the data used to produce the resupply TPFDD is different within each service, not only by intensity rates, but by factors of consumption. The unified command planner must understand all these differences to effectively force/channel change. Divided loyalties and jurisdictional disputes pull the system apart at every level, causing cross-purpose planners to put a greater premium on intra-system competition than on partnership (1:197). Each service will naturally continue to seek methods to refine their own particular system. There is no reason for one service to follow the lead or give in to the wishes of another service if there can be no perceived gain. With a broad understanding of individual service guidance, the unified command planner can be effective and recommend courses of action which satisfy the individual service components and, more importantly, meet the task at hand. Figure 2 depicts the interface between some of the planners described in this chapter.

WORKING TOGETHER

The component and service level planners must be empathetic to the global requirements as well. Of course the lack of experience in the JOPS community weighs heavily

on both unified and component level planners being able to educate their various audiences. There are very few qualified JOPS planners worldwide (3:2-3). While assigned to USAFE, the author found that in the resupply planning arena there are even fewer qualified JOPS personnel.

The roles of resupply planners are not easily defined. The various levels of planning require planners to be oriented towards more than one service. Planners at the unified command level must also be able to understand all aspects of the transportation agencies and wholesale resupply agencies. Component level planners must not only understand the role of the unified command, but must also know how the entire system interfaces its requirements. Planning cannot be done in a vacuum. Because questions asked by the senior leadership of all the services demand a more detailed explanation of the JOPS process, planners must study the roles and systems used to produce the TPFDD. One way to help understand the logistics system that produces the non-unit TPFDD is to review the role of the Air Force Logistics Command (AFLC).

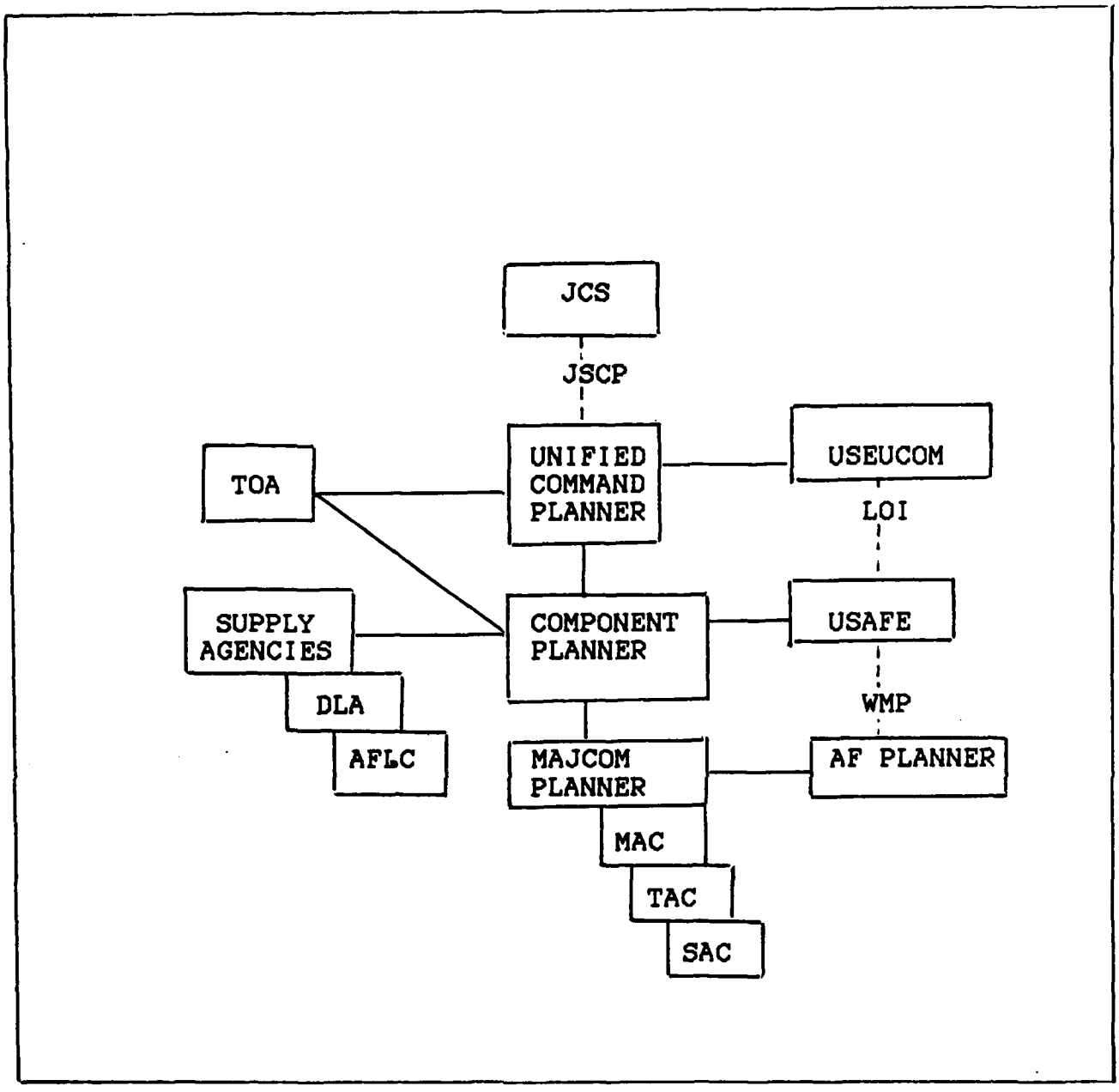

Figure 3. Planners' Interface

Chapter Four

AFLC AND THE RESUPPLY TPFDD

General Earl T. O'Loughlin, former AFLC Commander, stated, "the main job of AFLC is to keep the fleet in the air by providing the best maintenance and spares program available" (2:97). To do this, AFLC will focus on programs to maintain modular electronics, materials and structures to support the Advanced Tactical Fighter, and programs to use digital data throughout the manufacturing process (2:99). These programs will indeed help AFLC keep the fleet in the air as technology changes. However, in the scheme of non-unit planning AFLC has a large role in the development of the non-unit TPFDD. This role includes the development of resupply planning factors. Recall, these factors are part of the data base the JOPS MRG process uses to build the non-unit TPFDD. This particular function will be described in this chapter by examining the resupply planning factors office and the resupply factors review.

RESUPPLY PLANNING FACTORS OFFICE

Within the Headquarters AFLC Director of Operations Plans (HQ AFLC/XO) is the single point of contact for resupply planning factors (5:317). Members of the Resupply Planning Factors Office (RPFO) provide guidance to the rest of the Air Force on resupply matters and ultimately validate all Air Force resupply planning factors. Additionally, they coordinate on any decisions affecting Air Force resupply policy and notify any agency affected by planning factor program changes (5:317). The RPFO does not work alone. Close contact with each collateral manager of the nine supply classes is required to ensure all aspects of planning are considered.

Just as the logistics planner took inputs from individual supply class managers in the component building process of the non-unit TPFDD, the RPFO works with other

military services, DOD agencies, and respective Air Force supply class managers to come up with resupply planning factors (5:317). An example of coordination in factors development would be between the Defense Logistics Agency (DLA) and AFLC. DLA provides the sources of data for all services for supply class I (rations). AFLC would then work with DLA to come up with known consumption factors derived from data collected during exercises or actual situations. The data DLA provides would involve information from all services but would be more aligned to how the assets were provided or sourced from depot storage locations. DLA does not provide all the data, however, as AFLC will also request a review of the factors within Air Force channels. This brings the operational logistics planner into the equation.

RESUPPLY FACTORS REVIEW

AFLC annually requests planners at the MAJCOM and theater component level to review the planning factors for each class of supply. As an example, class I (rations) planning within the Air Force is the responsibility of the Air Force Commissary Service (AFCOMS). In the case of theater OPlan planning, AFCOMS planners would receive a request from the component logistics planner to review ration factors. The AFCOMS planner would review the factors and recommend adjustment as necessary. However, the AFCOMS planner is not the only reviewer at the component level. The Services Directorate would also review the data before the logistics planner would respond to the AFLC request. Services personnel review the data in this case because they manage the PWRM rations at the MAJCOM level. This process should ensure the factors are responsive to the tasking and intensity levels levied by service and unified command guidance. A similar process would occur for each class of supply.

The lack of JOPS experienced planners has already been mentioned as a problem across the services. The same lack of experience exists in the factors development process (3:19). Many of the factors used today have little historical basis or rather any collective conscience that can relate pertinent development information. For example, while assigned to the USAFE Logistics Plans Directorate, the author hosted an AFLC visit concerning the resupply

development process. When AFLC planners queried some USAFE planners on the resupply factors process the USAFE staff had virtually no idea where the data had originally come from nor could they follow any methodology of how these factors were derived. Experience cannot be magically ordained nor can trained planners appear on planning staffs overnight. AFLC is attempting to correct this problem. The RPFO is a fairly new organization and is now starting to educate their own planners as well as field level TPFDD developers on resupply factors development. Part of the AFLC process to bring resupply planning into the modern age is to review all factors now present in the JOPS logistics factors file (LFF) data base. This will be a time consuming process, but if the Air Force is to ever have meaningful data represented in the non-unit TPFDD, the spectrum of non-unit planning to include resupply planning factors development must be understood.

Besides acting as the focal point for resupply planning factors, AFLC also provides a liaison office at the Joint Deployment Agency (JDA) for Air Force component planning (5:317). This office takes data from the force TPFDD and builds records outside the MRG process for portions of class VII (aircraft engines) and class IX (repair parts). This is accomplished during the logistics refinement conference stage of the TPFDD development process. Recall that the MRG used the UTC Consumption Factors File (UCFF) and LFF to produce notional tonnages. The JDA liaison office attempts to use actual engine data and spare parts data to produce more realistic tonnages. The component logistics planner provides maintenance related data to help AFLC place assets at the best location. This planning cooperation between AFLC and the theater component planner is one example showing how realistic data can be used instead of data produced from factors having little historical evidence behind their makeup.

AFLC has the enormous task of keeping the Air Force fleet in the air and repaired. However, the planning responsibilities of AFLC are also crucial in the development of the non-unit TPFDD. The development of the RPFO was a giant step for AFLC as they continue to make sense of the non-unit planning world. This is but one area to be covered as a way to improve non-unit planning in the next chapter.

Chapter Five

WAYS TOWARD IMPROVEMENT

The previous background information will provide a basis to discuss ways toward improving the non-unit TPFDD planning system. The planning community must realize there is no quick fix to the problems presented by the antiquated JOPS system. One recommendation would be for the planning community to listen more effectively to the questions from the senior planners so the ADP community can begin to develop systems responsive to those needs. Second, strong educational programs are necessary to improve and carry logistics planning into the future.

RESPONSIVE SYSTEMS DEVELOPMENT

"An obvious objective of non-unit resupply planning is to move into combat only those items that are required" (7:17). This is the optimal goal for sustainment. Moving only what is necessary obviously takes the least amount of our critical lift (air or sea). But, there is a problem. Remember the description of how tonnages are produced by the movement requirements generator (MRG) and recall that most of the non-unit resupply is notional. As JOPS now functions, the MRG produces a proliferation of records that are of questionable wartime value, such as personal demand items and mail.

The MRG generates notional tonnages of class VI (personal demand), class VI-M (mail) and class II (clothing, general supplies) based on population expansion at supported theater destinations. If there are no prepositioned assets in theater the MRG will build and flow records early in the strategic flow. Are these types of records wartime essential? Remember though, the MRG has a purpose of building records which equate to lift requirements. Thus, these types of non-unit resupply records take critical lift away from other possible essential forces or resupply. The

component planner can manually manipulate this data to move the assets later in the flow, but based on the author's experience, individual functional managers outside the component level strongly object to "their data" being relegated to something less than prime importance. A system to code and reflect actual assets and their associated movements is a possible answer and gets planning from the notional to the actual.

The means to develop real data instead of notional MRG data is a key issue (7:15). The need to have information that correlates to real, on-hand assets is crucial to sustainment planning in the future. Planners can no longer shrug their shoulders when asked, "what's on the boat?" "The way to accomplish this is to manually intervene in the JOPS process by replacing the MRG calculated supply requirements for at least the first 30 days and interject actual supply movement requirements developed by the agencies responsible for their movement" (7:15).

One of the problems in accomplishing this is that there are no systems on-line today which can provide all the required capability. Additionally, the defense agencies, such as DLA which is responsible for class I, would have to fully commit efforts to aid in the development of such a massive data base (7:15-17). The Joint Chiefs of Staff have directed the development of a system to replace the MRG called the Logistics Capability Estimator (LCE), but the author feels it will not fill the requirement of having visibility over actual assets in the data base as it appears to be merely refined JOPS MRG software.

Inherent in the analysis of a responsive system is the question of what agency should manage logistic inputs. More specifically, how best can the Air Force manage its piece of the non-unit pie? There is no question the TPFDD is the Theater Commander's phased-timing plan to bring forces and non-unit resupply assets into the war. Generally, each component is charged with the development of their portion of the TPFDD flow. However, in the non-unit resupply world there is a stateside agency that is probably better equipped to handle the non-unit Air Force TPFDD development. That agency is AFLC. AFLC develops the resupply factors and manages any problems related to their usage (5:317). Also, as the Air Force "wholesaler," AFLC is in a better position

than most to identify and track assets. AFLC has argued in the past (during the 1986 AFLC/LOC visit to USAFE/LGX) that since the TPFDD represents a theater commander's plan, the control of the development of any part of that plan should come from the affected theater. This could be overcome, however.

The component planner could provide all the necessary data on prepositioned assets in theater. Additionally, any unified command guidance could be provided to the AFLC office of primary responsibility. The rest of the system would be managed by AFLC. AFLC already builds class V (munitions) records, and parts of classes VII (engines) and IX (spares) records for the non-unit TPFDD. The management of the entire system with inputs from the component planners is a viable option and would help in another way: continuity in the experienced planner base. These planners would most likely come from the civilian work force and not be subject to permanent change of station moves. In time, an experienced work force would be resident at AFLC.

Our leaders, as mentioned before, are asking the tough questions. For example, "what specifically does that 200 short tons of class VI mean?" This kind of question, however, seems to indicate they are not fully aware of the types of data the JOPS MRG produces. It is obvious to the author the original intent of the MRG is no longer pertinent to the type of detailed planning required today. Planners need to open their ears to the questions being asked so they can educate those who are asking "what's in the box?" as to the actual meaning of the presented data. As a minimum they must honestly address the problem that our system just doesn't fill the bill anymore. A simple face-lift, such as the LCE, will not satisfy the demand. Something worth looking into would be a new dynamic system, possibly headed by a central agency such as AFLC and patterned after those lessons learned from field planners.

EDUCATIONAL PROGRAMS

If part of the problem for planners is that our leaders don't understand what JOPS provides in terms of non-unit resupply, it would be logical to take steps to educate people in those positions where decisions are made.

However, education in joint planning isn't lacking just at the top. There are gaps throughout the spectrum of planning. This is in part due to a lack of available programs anywhere within the services and by the perceived notions by some that entering into the joint planning world (assignments outside of a planner's own service) hampers promotion (3:2-3). "However, it is important to point out that availability of properly trained and experienced personnel is an essential key to the effective management of JOPS resupply planning" (7:19). It would follow then, that only after our decision makers understand the many layers of planning, can change, such as the newly proposed system, occur.

Pertinent educational programs will allow planners to lay their cards on the table and say, "this is all there is." Planners must say, "Sir, I can't tell you what's in those 200 short tons of class IX going to destination X. The data is notional and is merely intended to be used to program strategic lift." It is true that the Armed Forces Staff College travels to different locations throughout the year, bringing the planning gospel to the planning world. But these visits only scratch the surface with very little ever said about the resupply of forces or what sustainability really means. Additionally, there are Air Training Command (ATC) courses that attempt to teach the JOPS process, but they offer slightly more than basic familiarization. We need to plan the strategic movement of consumables. To do this, the services must have educational programs capable of producing knowledgeable JOPS planners. Once this is fully understood and accepted, the planning world can be more readily educated on the capabilities and limitations of non-unit resupply.

In short, the planning community needs a responsive education system that provides information to all levels of planners. Under the current organizational structure the unified command orchestrates the building of the TPFDD. However, the unified command should also direct or provide training on in-use systems to all their component planners and recommend changes to training programs prepared by the agents of the JCS. Planners must not let any more time elapse before realizing they must "grow their own" through meaningful training.

Chapter Six

CONCLUSION

Resupply planning, although worked by many different planning agencies is relatively unknown when reference is made to JOPS or the TPFDD. Resupply planning has moved to the front of our war planning efforts because sustainment of our deployed forces has more visibility than ever before. The current interest in non-unit resupply planning has prompted our leaders to ask those hard questions previously alluded to. However, the questions our leaders are asking, though relevant, are outside the current capabilities of the JOPS MRG. If the movement requirements system generating the non-unit TPFDD were better understood, these same leaders could certainly implement programs to effect change. As a minimum, these questions would become educated concerns. Change should result in a new system or systems capable of providing answers whether they were good or bad.

The more positive interaction planners have with all levels of planning the more enlightened they will become. Planners can then see the faint glimmer of light at the end of the tunnel and truly start to move into the future. Whether the immense potential of today's technology can provide the automated data support necessary to plan for sustainment, planning can be more responsive now. All that is really needed is more awareness.

Non-unit resupply planning has taken a back seat to force or operations planning for too long. It must be realized that the non-unit effort by all services, when merged with the force planning, becomes one plan. Planners must learn to communicate better within the entire spectrum of OPlan planning by effectively listening to questions before courses of action are chosen. Additionally, a new system must be developed which is responsive to the needs of the planning community. Above all, whatever system is developed or used the proper awareness of that system's capabilities must be understood by all concerned.

The JOPS MRG non-unit TPFDD simply projects tonnages of certain supply classes which require strategic lift. The MRG TPFDD does not reveal "what is in the box?" Once a system is developed which projects actual tonnages, possibly by individual stock number, planners can then begin to answer the above question. The planning world has come a long way since the idea of deliberate planning was formed. The JOPS MRG no longer provides the data the planning community needs. The technology to develop new systems is awakening. When the joint operations planning and execution system (JOPES), a system which attempts to provide an interface between deliberate and crisis planning (6:II-17), becomes operational, it is hoped that the failures of the MRG and the first attempts at the LCE will be realized, and a responsive non-unit resupply system will be capable of meaningful planning.

BIBLIOGRAPHY

A. REFERENCES CITED

Books

1. Collins, John M. U.S. Defense Planning - A Critique. Boulder, Colorado: Westview Press, 1982.

Articles and Periodicals

2. "Air Force Logistics Command." Air Force Magazine, Vol. 70, No. 5 (May 1987), pp. 97-99.

3. Faessler, Lawrence J., Lt Col, USAF. "JOPS and Resupply: The Connection." AF Journal of Logistics, (Spring 1980), pp. 2-3.

4. Jones, David C., Gen, USAF Retired. "Command Policy." Armed Forces Press Service. (June 1979).

Official Documents

5. US Department of the Air Force. USAF Operations Planning Process. AF Regulation 28-3. Washington, D.C.: Government Printing Office, 1986.

6. National Defense University, Armed Forces Staff College. Joint Staff Officers Guide 1986. AFSC Pub 1. Norfolk, Va.

7. Froehlich, John M., Maj, USAF. JOPS Resupply Planning Factors Survey. AFLMC Report 781042. (January 1981).

CONTINUED

B. Related Sources

Books

Ambrose, Stephen E. and James Alden Baker. The Military and American Society. New York: The Free Press, 1972.

Enthoven, Alain C. and K.W.Smith. How Much Is Enough. New York: Harper and Row Publishers, 1971.

Spinney, Franklin C. Defense Facts of Life. Boulder, Colorado: Westview Press, 1985.

Official Documents

Gruber, Benjamin A. et al. An Analysis of Navy Logistics Planning Factors. Final Report Phase I. Washington, D.C.: Department of the Navy, 15 March 1978.

----- et al. An Analysis of Navy Logistics Planning Factors. Final Report Phase II. Washington, D.C.: Department of the Navy, 30 November 1979.

USAF War and Mobilization Plan, Volume I. Washington DC: Department of the Air Force, June 1986. Secret -- Classified by multiple sources. Declassify on OADR. "No classified data used from this source."

United States Air Forces in Europe (USAFE). Functional Manager Handout. January 1987.

Joint Chiefs of Staff. Joint Operation Planning System. Vol I. Washington, D.C.: October 1980.

CONTINUED

Other Sources

Meyer, Christopher M., Major, USAF. Chief, Logistics War Plans Automation Branch, Headquarters USAFE, Ramstein Air Base, Germany. Component Logistics JOPS Planner. July 1983 - June 1987.

-----. Chief Instructor G30LR6621 Logistics Plans Officers Course, Lowry Air Force Base, Colorado. Instructed JOPS as part of course. August 1980 - August 1983.

GLOSSARY

ADP	Automated Data Processing
AFCOMS	Air Force Commisary Service
AFLC	Air Force Logistics Command
ATC	Air Training Command
DLA	Defense Logistics Agency
EAD	Earliest Arrival Date
EUCOM	European Command
JCS	Joint Chiefs of Staff
JDA	Joint Deployment Agency
JDS	Joint Deployment System
JOPES	Joint Operation Planning and Execution System
JOPS	Joint Operation Planning System
JSCP	Joint Strategic Capabilities Plan
LAD	Latest Arrival Date
LCE	Logistics Capability Estimator
LFF	Logistics Factors File
LOGDET	Logistics Detail
LOI	Letter of Instruction
LGX	Logistics Plans
MAJCOM	Major Command
MAC	Military Airlift Command
MANFOR	Manpower Force
MRG	Movement Requirements Generator
MSC	Military Sealift Command
OPLAN	Operations Plan
PAA	Primary Aircraft Authorization
PFF	Planning Factors File
POD	Port of Debarkation
POE	Port of Embarkation
POL	Petroleum, Oils and Lubricants
POSF	Ports of Support File
PWRM	Prepositioned War Reserve Materiel

CONTINUED

RPFO	Resupply Planning Factors Office
TFE	Transportation Feasibility Estimator
TOA	Transportation Operating Agency
TPFDD	Time-Phased Force and Deployment Data
TPFDL	Time-Phased Force and Deployment List
UCFF	UTC Consumption Factors File
USAFE	United States Air Forces in Europe
UTC	Unit Type Code
WMP	USAF War and Mobilization Plan
WRM	War Reserve Materiel

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